SECURITY OF SUPPLY
AN OPPORTUNITY FOR CANADA

THE GOVERNMENTS OF:
ALBERTA, SASKATCHEWAN & QUEBEC
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SECURITY OF SUPPLY
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I. INTRODUCTION

In September, 1986 Canadian Provincial Energy Ministers met in Banff. At that meeting a paper was presented which illustrated that with no new sources of supply, imports would be required to meet one-quarter of Canada's light crude oil needs by 1990, and more than half by 2000. The provinces were unanimous in stating that:

> "the situation facing the industry is a national problem and requires a national solution. **Canada has a unique opportunity among industrialized countries to be self-sufficient in oil...** The world oil price outlook remains very uncertain and the unstable situation will require further measures to ensure the survival of a Canadian industry and the development of new energy supplies."

Subsequent to the meeting, the provinces of Alberta, Saskatchewan and Quebec struck a task force to review:

- Canada's future light oil supply/demand balance;
- the future availability and deliverability of domestic crude oil on a regional basis; and
- opportunities in reducing our future light oil import dependence.

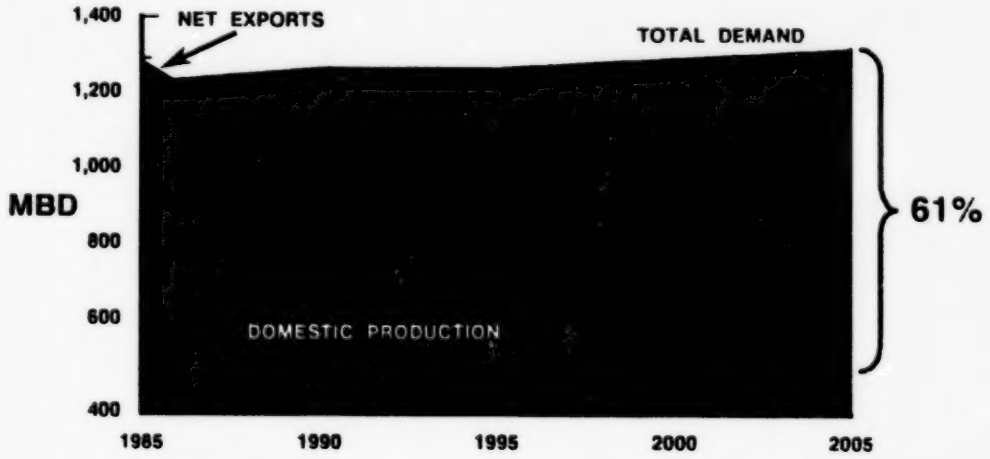
II. THE OIL SECURITY OF SUPPLY SITUATION

A) Canada

The National Energy Board, Canadian Energy Supply and Demand 1985-2005 report underlined the Banff conclusions:

- In the low oil price case, imported light crude oil and petroleum products by 2005 could be some 61% of total domestic light crude requirements.
- Under a high price scenario imports would be 40% of total domestic light crude requirements.
- Under either scenario, there is a high probability that Montreal refineries will lose access to Western Canadian crude and the whole of Quebec and Atlantic Canada as well as parts of Ontario will be supplied from foreign sources in the early 1990s.

CANADIAN SUPPLY AND DEMAND
LIGHT CRUDE OIL AND EQUIVALENT
(LOW PRICE CASE)



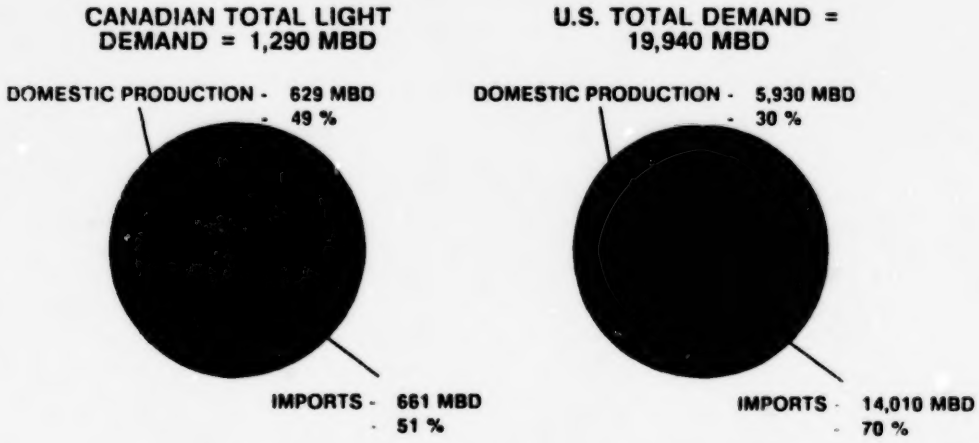
SOURCE: NATIONAL ENERGY BOARD

In 1985, Canada was a net light crude oil exporter. This was similar to Canada's position in 1974 and 1980. However, in those years domestic production was much higher; productive capacity has now fallen by nearly 400 Mbd. The offset is reduced demand, which has declined from its 1979-80 peak of about 1600 Mbd to about 1250 Mbd, a drop of nearly 25%. In spite of relatively flat demand in the future, productive capacity will decline further and imports will occupy a growing wedge of the demand pie.

B) United States

U.S. government projections indicate a more dramatic import dependency south of the border.

CRUDE OIL SUPPLY AND DEMAND - 2000
(LOW PRICE CASE)


CANADIAN TOTAL LIGHT DEMAND = 1,290 MBD
DOMESTIC PRODUCTION - 629 MBD - 49 %
IMPORTS - 661 MBD - 51 %
U.S. TOTAL DEMAND = 19,940 MBD
DOMESTIC PRODUCTION - 5,930 MBD - 30 %
IMPORTS - 14,010 MBD - 70 %

SOURCE: NATIONAL ENERGY BOARD AND U.S. NATIONAL PETROLEUM COUNCIL

The U.S. demand of nearly 20 MMbd in 2000 is only 1 MMbd lower than their peak usage in the late 1970s; some cuts in demand have been made, but future growth is expected to be greater than in Canada. The U.S. National Petroleum Council acknowledges that while under lower prices conservation and structural changes in oil use will continue, it will be at a somewhat diminished pace compared to recent years.

Canada has a much greater potential to develop new oil sources than does the U.S.. Canada's years of supply from proven reserves exceed those in the U.S. by nearly four times. Canada's technical potential is significantly larger than that in the U.S. when the tremendous offshore and bitumen resources are included.

Many of these resources will not be developed as long as there is a perception of risk of low prices. The result is a growing dependence on imported crude oil. Such dependence is worrisome in that all studies show that in the 1990s internationally traded oil will be increasingly sourced from the OPEC countries in the Persian Gulf. A greater market share will give those countries greater control over the world oil price.

III. THE FUTURE AVAILABILITY & DELIVERABILITY OF CRUDE OIL ON A REGIONAL BASIS

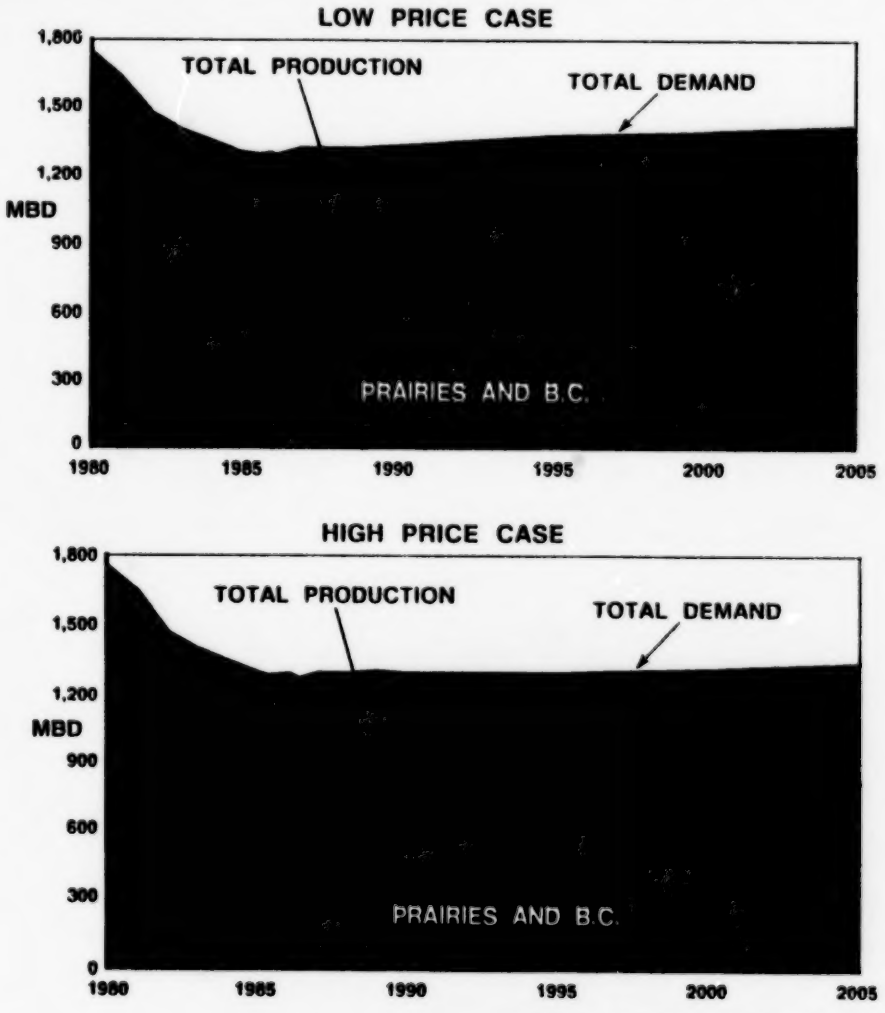
The increasing reliance on imported crude will be concentrated first in Quebec and the Atlantic region and subsequently in Ontario.

Quebec has specific regional concerns that result from the reduced production of oil from the conventional producing areas in Canada. These are:

- Starting in 1991 or earlier, there will be a reduced flow of light crude in the Sarnia to Montreal pipeline.
- With reduced domestic light crude supplies, Ontario will need to import crude as early as 1993. Import requirements will increase thereafter under either price scenario.

The situation is illustrated by the following graphs from the NEB report.

CANADIAN LIGHT CRUDE OIL REQUIREMENTS



SOURCE: NATIONAL ENERGY BOARD

Two options can be envisaged to meet those impact needs.

- o Reversal of the Sarnia-Montreal pipeline.
- o Reliance upon the Central U.S. pipeline system (Loop, Capline, Chicap)

These options appear to be equally feasible for supplying Ontario. Adequate excess capacity exists in the U.S. pipeline system, as well as in the Portland-Montreal pipeline.

The reversal of the IPL Sarnia-Montreal line would have, however, important adverse impacts upon the refining and petrochemical industries in Quebec.

Refining

- o Montreal refineries would lose the security of being partially supplied by Canadian crude, as OPEC domination increases again.
- o Montreal is a natural market for Canadian heavy crude oil, because of market structure as well as refinery characteristics.
- o According to the NEB's high price scenario, the initial increment of production from Hibernia would be 110,000 b/d, starting in 1996. This would not be sufficient to contribute to Ontario demand, since it would be absorbed into Maritime and Quebec markets.

Petrochemicals

- o The natural gas liquid transportation and fractionation project (Soligas), from Edmonton to Montreal would be precluded.
- o Without those NGL supplies, the existing petrochemical industry in Montreal could be further weakened. Access to NGLs as feedstock is a major element of a program already undertaken to improve the competitiveness of that industry.
- o NGL availability, at competitive prices, can also present new chemical project opportunities in the Montreal area.

IV. THE OPPORTUNITIES IN REDUCING OUR FUTURE OIL IMPORT DEPENDENCE

A) Demand Response

Efforts to provide a secure supply of oil in the future can be improved by limiting the amount of supply required. Decreasing demand can be achieved by:

- o more efficient use of petroleum products through improved technology and conservation; and
- o substitution to alternative fuels

Approximately 62% of refined petroleum products are used in the transportation sector. Demand has already been reduced substantially within the transportation sector and there is little opportunity for further reduction. The remaining refined products are consumed largely by industrial users or as a heating fuel in those areas not accessible to natural gas distribution systems.

Industrial and heating fuel demand can be reduced in Atlantic Canada where there is no access to natural gas distribution systems. The development of the Venture natural gas project offers substantial substitution potential in that area.

Although the demand side is an important component in reducing oil import dependency, it is far from being a solution to the problem.

B) Supply Response

Unlike the majority of its trading partners, Canada is in the fortunate position of having ample oil resources.

The starting point should be a strong conventional industry. Alberta and Saskatchewan have recently made significant changes in their royalty and incentive regimes to enhance the viability of conventional activity. It is hoped there will be changes announced in the forthcoming federal budget that will complement the provincial actions and help restore a reasonable level of activity in the western sedimentary basin.

Canada's opportunities, however, extend well beyond conventional production from the western sedimentary basin. By developing several oil supply projects, Canada may reap significant additional national and regional economic net benefits.

The risk factor in today's oil and gas industry is considerably higher than it was in 1980. Since then companies have seen previously unimagined risks realized:

- Political risk in the form of the National Energy Program took six years to remove.

- Economic risk and financial pressure in the form of the collapse in prices has been a severe shock to corporate cashflow.

The result is a risk-averse atmosphere with some notable characteristics:

- Many companies are financially distressed and have a shortage of internal cash flow available for exploration or development work. Their prime objective is to continue to survive by producing and not replacing, oil and gas reserves.

- Financial institutions have, given the previous political and current economic risks, introduced very stringent conditions for financing to such an extent that new debt is unavailable even for conventional activity. Conventional commercial financing for major projects is out of the question without government involvement in some form.

- New equity has been slow to return to the industry.

- Those companies in relatively healthy financial condition can do some of their most cost effective "exploration and development" by purchasing the assets (the oil and gas reserves) of their financially distressed competitors.

The result of this atmosphere is that a situation is developing where the private risk assessment varies significantly from the government or social risk assessment.

- Unlike the early eighties, there should now be little political risk of punitive government action impacting on companies and investors. To the extent that governments do not engage in strategic forward planning however, political risk has the potential to grow.

- Any risk of the mid-1990s oil price not being high enough to support the construction of major new energy projects today is more than offset by the potential for higher prices and the risks associated with the heavy dependence on imports.

While private and government risk assessment can differ from time to time, the private versus government benefit/cost analysis of major development projects has and will always differ.

While major projects have difficulty proceeding for the reasons outlined above, they:

- **are economic from a national public viewpoint due to the benefits which would result from their aggressive development.**
- **would provide additional investment income and employment in regions currently facing depressed economic activity.**
- **strengthen Canada's trade balance by lowering imports.**

Governments need not interfere with the deregulated market in order to reduce the risks perceived by private sector project proponents and allow projects to proceed in today's environment. Through a study undertaken by Informetrica Limited, an Ottawa economic consulting firm, we illustrate a number of different mechanisms that would provide the needed risk reduction. The detailed analysis is available in a separate paper.

Major conclusions:

- Proceeding expeditiously with the construction of energy development opportunities could inject $20 billion worth of capital investment into the national economy, reducing our import bill and providing major stimulus to the Canadian economy.
- The development of energy projects would provide a major contribution towards reducing regional disparities.
- The federal government would be a major beneficiary, earning billions of dollars that could be used to reduce the federal deficit or pursue other policy priorities.
- While different mechanisms provide different results, all of the cases show a positive impact on major national economic and employment indicators.

The following table shows the results of one case.

INCREASES IN MAJOR NATIONAL ECONOMIC INDICATORS

	1990	1995	2000	2005	Total 1987-2005
	($ billions 1986 dollars)				
GROSS NATIONAL EXPENDITURE	1.3	2.1	2.7	3.4	42
PERSONAL CONSUMPTION	.3	1.0	1.4	1.7	18
FEDERAL GOVERNMENT NET REVENUES	.3	.9	1.3	1.8	18
	(thousands)				
EMPLOYMENT LEVELS	20	48	42	35	

V. A TRANSITION RESPONSE: QUEBEC'S CONTINUED ACCESS TO CANADIAN CRUDE OIL

If we achieve the pace of oil supply development contemplated in the Informetrica study, Quebec can maintain longer term access to western and northern crude oils.

However, even under this scenario, there would be a timing problem. But a minimum throughput in the Sarnia-Montreal pipeline (100,000 b/d) could be maintained until these projects come on stream by:

- An NGL transportation project and by replacing imported off-shore heavy crude with Canadian heavy crude in Montreal refineries;

- Maintaining the transportation of semi-finished products from Clarkson to Montreal;

- The continued use of synthetic oil by Montreal refineries.

  This would mean the inflow under a high price scenario, of 25,000 b/d of light crude oil to Montreal.

- Future movements on the Sarnia-Montreal pipeline could be envisioned as follows:

20,000 bbl/d	-	Heavy Oil
20,000 bbl/d	-	Semi-finished products from Clarkson, Ont.
25,000 bbl/d	-	NGL's for Soligas project (effective 1989)
10,000 bbd/d	-	Synthetic Oil
25,000 bbl/d	-	Light Oil
100,000 bbl/d	-	Total throughput

- One can see that under this scenario only 25,000 bbl/d of shipments of light oil are required to maintain a minimum throughput of 100,000 bbl/d in the Sarnia-Montreal pipeline.

VI. SUMMARY: KEY OBSERVATIONS OF TASK FORCE

1. Canadian conventional oil production can continue to make a contribution toward shielding Canadians from the effects of interruptions in the international flow of oil and products. However, it can no longer act as our sole source of security.

2. Declining Western Canadian conventional oil also has implications for the Sarnia-Montreal pipeline. Ways and means to ensure the continued use of the line should be investigated.

3. Canada's energy security position can be enhanced by a combination of the following developments.

   - o Reduced demand for light oil through
     - increased efficiency of energy utilization and
     - substitution of other non-renewable and renewable energy sources (e.g. gas, electricity, coal, solar, etc.)

   - o Increased supply of light oil through development of:
     - conventional western Canadian sedimentary basin sources
     - offshore and frontier conventional oil developments
     - oil sands and heavy oil resources by means of mining or in-situ projects and upgraders for the production of synthetic crude.

4. Continued adherence to deregulated market prices is critical to ensuring that the most efficient decisions are made regarding short term energy supply and demand questions. However, long term large capital plans and decisions are not made on short term price signals. They are the result of a complex interplay of corporate, financial and political factors. While deregulation provides a positive environment for long-term planning -- it cannot be relied upon to result in private decisions that are in the best interests of Canada when looking at major projects with seven year construction periods and 25 year operating lives. Many risks remain for private investors and if these risks diverge from government perceptions, governments can and should attempt to reduce those risks.

5. Governments should act if the social benefit/cost assessment of Canadian oil supply alternatives exceeds the private benefit/cost assessment of the same. This can occur because the private sector decision-making process does not factor in the positive national and regional economic and employment impacts of large developments.

6. The potential for positive national and regional economic benefits by encouraging the development of our oil resources suggests that provincial and federal energy policies be reviewed more closely to ensure their appropriateness. A range of fiscal and financial vehicles is available which could reduce private sector risks in order to allow projects to proceed.